PAPERS PRESENTED AS PART OF THE REQUIREMENTS OF THE SECOND INTERNATIONAL EXCHANGE PROGRAM, SEPTEMBER 1989

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Papers Presented

International Exchange Program

The Carroll Center for the Blind

770 Centre Street

Newton, Massachusetts, 02158-2597, USA

This program was made possible by a generous donation from the RGK Foundation of Austin, Texas and Mr. Joel I. Gordon

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THE PHYSICAL EDUCATION AND RECREATION FOR THE BLIND

A paper presented as part of the requirements of
The First International Exchange Program
September 1988
The Carroll Center for the Blind
770 Centre Street
Newton, Massachusetts, USA 02158-2597

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I. INTRODUCTION:

The purpose of this article is to present the important values of physical education and recreation programs for the blind as a way of helping them develop this body movement. (Developing the dynamic movement of the body is essential for the many activities that every child needs to achieve in his life.)
Since most physical and recreational activities are stimulated by vision the totally blind child or the partially sighted child who can't benefit from visual stimulation in the environment will need to develop active and appropriate movements of the body. The child should have a chance like other children to develop physical motor movements of the body by using other sensory stimulations, such as the sense of hearing and touching. This demands some modifications of teaching techniques and equipment which will be used with these activities. In this paper I will explain how the family of a visually impaired child, the teachers, and the community can help the visually impaired child achieve a maximum degree of experience from physical education and recreation programs.

II. RELATIONSHIP OF PHYSICAL EDUCATION AND RECREATION:

Physical education and recreation can be considered similar, because in actuality these two are not discretely separated (Lowenfeld 1973). Physical education and recreation run in parallel lines rather than lying end to end, with recreation not beginning until physical education in school has ended at the termination of school enrollment (Lowenfeld 1973). Physical education involves much more body movement, encompassing all parts of the body. It strengthens the muscle of the individual's body, helping the person to attain good postural appearance, providing balance and keeping the individual physically active.

Addressing physical education for a life time span is complex and bound up with each individual's personal concept of life. To add to the problem, people have different concepts and beliefs about what physical education actually means. Some believe physical education means all the activities that the person does throughout his life, starting from a very early age with simple activities, which include all the physical movements of the body to more complex activities, depending on age and capabilities of the individual.

Physical Education should be seen in the context of the development of the whole personality, a person's health, strength and ability must not only be evident in gymnastic sports and games, but in every day life situations. (Dorothea Kichtner, 1972/73).

Recreation means any activities in which the individual participates, either individually or through group games and activities. These are varied, such as reading, writing, music, table games, handcrafts, painting, sailing, picnicking, traveling, collecting favorite objects, caring for pets, etc. Recreational activities give the blind person a chance to communicate with others, to find pleasure and happiness from his leisure-time activities.

III. RELATIONSHIP OF PHYSICAL EDUCATION AND RECREATION:

Most studies in the area of education of the blind put more emphasis on the needs for physical education and recreation programs for blind individuals than on the importance and values of these activities for one's well-being. Physical education and recreation activities help the blind individual to live a healthier life and to develop good physical and mental awareness. One goal of the physical education and recreation program in schools is not only to promote health and bodily coordination, but to teach constructive and enjoyable ways in which to utilize leisure time through learned skills. (Lowenfeld - 1973). Physical education should be a basic experience for the visually handicapped because of the contribution it can make to their extraordinary needs with respect to psychological and social development, as well as the need for independent mobility and orientation to the physical environment (Conway, Green, Zalucki - 1982).

When a blind person participates in physical activities, he builds up a positive attitude; self-concept and confidence is instilled in his personality. Physical movement allows blind people to feel free to express their feelings and to use their energy in a constructive manner.

Physical education and recreation also helps the visually impaired person to develop good movement and balance of his body, which gives the blind individual's body good postural appearance. Physical education and recreation help overcome and control behaviors called "blindisms".

Sports and recreational activities, indoors or out, contribute to good social adjustment which is essential in life. Physical education and recreation help blind individuals with sensory training and it gives clues and information about spacial concepts. It develops an awareness through other channels of communication such as hearing, kinesthetics and touch. When visually impaired persons participate in sport games and activities, it provides a good picture of their abilities. This is a signal to the people in their community to change their negative attitudes and misunderstanding about blind people's capabilities. When a blind person achieves success in physical education activities, it encourages and motivates him to succeed in other areas of his life such as in school and his future work. Also physical activity helps visually impaired people to build up "muscle memory," which helps them judge when to turn, climb steps or gauge familiar distances they habitually travel (L.E. Kratz 1973). Physical education assists the visually impaired individual in acquiring body awareness and the ability to develop concepts of the environment through the other senses. Physical movement is one of the most important parts of this awareness. Coordination of body parts, postural concepts, the satisfaction of accomplishment through movement all contribute to the individuals image of himself, both psychologically and physiologically (L.E. Kratz 1973).

IV. THE ROLE OF THE FAMILY:

Physical education and recreation skills should take place in three major areas of the visually impaired individual's life. These areas are the family, the school and the community:

a. The family:

The family is considered the first school for the child. The parents are the first teachers of the visually impaired child. They provide teaching methods and help the visually impaired child learn different skills during his childhood because he is living with the family. For these reasons, the early childhood years are considered very important for the visually impaired child, assisting him in building a good foundation for the future.

In many cases, the visually impaired child puts a strain on the family. Parents find that they can't handle the blind child's problems. They don't know how to deal with the child in a normal way, how to help their visually impaired child's development, his movement towards acquiring knowledge about his environment. They are themselves handicapped by their belief that if a child is blind or visually impaired he can't participate in things.

On the other hand, we find some families who understand their visually impaired child's needs and help him to acquire many skills while living with his family.

The mother of a visually impaired child should be aware of his needs, especially his motor movements, which are very important for him. Sighted children develop body movement in response to visual stimulation, like colors, objects, toys etc, but the visually impaired child who has no vision or who has very little functional vision does not respond the same way as a sighted child. Parents of visually impaired children should try to provide this stimulation in other unique ways. They should not wait until the child reaches school age; they should help him develop motor skills before he enters school. There are many activities that a mother can do with a visually impaired child. For example, playing with him, singing, moving his hands, arms, legs and his body for flexibility, using audible stimulants like her voice speaking to him, playing music, clapping and letting him touch the audible toys. When he is ready, he should be taught how to crawl, walk, jump, run, climb, and throw. He should be given a chance to participate in family activities and games. Family activities should make it possible for him to join in with other family members. His parents should help by explaining the activity to him or modifying the activity so he can participate.

Families can help blind children develop communication skills with other children, interacting with children in the neighborhood. This can be done by taking him to the playground where other children play, letting him participate in activities like swinging, the merry-go-round, climbing the bars etc. Sometimes it is a good idea to invite some of the neighborhood children to the blind child's house to play. Through interesting activities the visually impaired child can communicate with other children and at the same time, the other children become informed about the visually impaired child (Charles E. Buell 1966).

A family can provide many indoor or outdoor activities for the visually impaired child, such as the following:

a. Simple exercises - moving hands and arms upward, downward, backward forward, clapping, pulling, pushing, throwing, weaving, touching, grasping, etc.

b. Leg movement - walking, jumping on two feet, hopping on one foot, walking forward and backward, twisting, bending knees.

c. Movement of all body parts - moving most of the body parts...hands, legs, head, waist, etc., such as in dancing.

Besides physical activities the family can let the visually impaired child participate in most of the recreational games and activities which fit his needs. These are many and varied, such as playing together with toys, participating in games like hide-and-go-seek, cold-warm-hot (where you hide an object and let him find it by giving him directions); he can also participate in table games such as dominoes, card playing and chess. Camping is a good experience that he can enjoy with the family or another group. Tandom bicycles bring all the benefits of the sport of cycling to visually impaired individuals. When the visually impaired child has the chance to be a participant in these activities he gains much awareness about his environment, and in addition it helps him build a good self-image. This enables him to overcome many of the obstacles which result from his blindness. These activities affect the blind child's life in both socially and psychologically. Developing good and acceptable behavior in his movement and motor coordination also helps him to increase his mental abilities.

V. THE ROLE OF PHYSICAL EDUCATION AND RECREATION TEACHERS:

Teachers of physical education play an important role in teaching and developing the physical and recreational skills of the visually impaired student, in both special and regular schools.

The role of physical education was shown to be of value in special school settings. The eighteenth century was a period of transition to modern social, political and educational ideas. The French educational theorist, Emile Rousseau, stressed the value of sports, significantly influencing curriculum development, with the value of physical education being subsequently recognized in Germany and Austria.

In the United States, between 1830 and 1833, only one school--Perkins Institute in Boston--made special provisions for physical activity through such efforts of the outstanding Director, Dr. Samuel Gridley Howe (Buell 1966). Howe believed that physical activities were very important for visually impaired students in order to control and treat certain physical manifestations of nervousness, commonly known as "blindisms." He noted that the visually impaired child during his childhood and early youth is naturally furnished with a stock of animal spirits that urges even a blind child into physical action. (Buell 1966). As a result of his influence, most of the residential schools for the visually handicapped have a gymnastic building for different sports activities. Also, there is all kinds of sports equipment which has been modified to meet the needs of the visually impaired student. Because the physical education teacher is qualified and has had experience working with the visually impaired, most of the visually impaired students at special or residential schools have more of a chance to participate in physical education classes.

Usually when the visually impaired child attends a special school for the blind, the teacher of physical education and recreation makes an evaluation as to his physical skills and this evaluation tells the teacher the child's strengths and weaknesses. In this evaluation, consideration is given to the experiences he has had before, what the child knows about conceptual images, what kind of physical education and recreation he is interested in, what kind of modification the child needs to have made in order to gain the new skills, what the child sees if he is partially sighted and how the teacher can help him to use his functional vision. Another important aspect is to take a medical history including what kinds of games and exercises the child can participate in, what kinds he can't, because with some eye conditions hard physical movement may be dangerous and will be detrimental for the child's eyes. Some of the children do better in a shady enviromnent than in a bright one because they have sensitivity to light. Some others will prefer lighted areas and so on. The best environment and the most comfortable can then be determined for the child to demonstrate his activities. After this evaluation the teacher will make an individual plan which will be tailored to his needs.

In regular schools where many blind students have been mainstreamed, the visually impaired students do not have the chance to participate in physical education and recreational programs. This is not the fault of their disability or the physical education or recreation teacher in the regular school. This happens for many reasons which are listed below:

Lack of knowledge and experience of the physical education and recreation teacher in the regular school as to how to deal with and teach the visually impaired/child.

All the facilities for physical education and recreation in regular schools are designed to meet the needs of the sighted students.

Modification of equipment and sports games needs to be made for the visually impaired students.

Regular teachers of physical education and recreation have limited time, and the teacher may feel that she/he can't divide her time to work with both sighted and visually impaired students simultaneously.

Regular teachers may hesitate to involve the visually impaired student in physical activities because they fear that he will fall and get hurt.

In fact, the visually impaired child, when integrated in the regular school, has the right to benefit from all educational programs. This includes physical education and recreational programs that the other students in his class take, otherwise, his mainstreaming will be incomplete.

It is important that the principal of the regular school, the teacher of physical education, the recreation teacher, the resource room teacher and the itinerant teacher should be working together to solve this problem. They need to make an individual plan for the visually impaired student to encourage him to be an active member of the class. Losing vision doesn't mean losing power and strength. In the mainstreaming program, we look for a good healthy adjustment and integration of the visually impaired student. Mainstreaming does not only focus on the academic education, but also looks for complete adjustment in the other areas where the visually impaired person feels that he can share and participate in all activities. This means activities for his daily living, that develop social adjustment and that play an important role in his psychological life and development of his whole person.

The itinerent teacher usually comes to the school to help the visually impaired students, and to consult with their teachers. When she comes, she should meet with the physical education teacher to give information and guidance on the integration of the visually handicapped child into the class. This information should include the child's life history in all aspects, his medical report about his eye condition, physical health, medication, in what activities he can participate, what he can do and what he cannot do. If the student is partially-sighted, the report should include the amount of residual vision, how he can use his residual vision, what is the best environment for him when he participates in the activities, whether he prefers strong light, a little amount of light, shady places, etc., and also give him/her some instruction and teaching methods to use with this student. This can be include the best approach for the visually impaired student, how he can use the other senses, such as hearing and how the physical education teacher can help the visually impaired student participate in group exercises and activities. Sometimes the itinerant teacher attends physical education classes and works together with the regular teacher; through this, the regular teacher has a better idea how to deal with the visually impaired student during physical education classes. Also, the other students in the class will have a better understanding of the visually impaired student, and they can help him to achieve that goal. Itinerant and resource teachers can provide the regular teacher with some special sports equipment which the visually impaired person can use during the physical and recreational classes, and also give ideas to the regular teacher about games which can be modified for the visually impaired, such as goal ball. In fitness exercises the teacher can use the visually impaired student to demonstrate the exercises to the other students. In this way, the blind students learn how to do the activity, as well as the sighted students. In teaching, the regular teacher can ask for a volunteer who would like to guide the visually impaired student.

Also, the visually impaired student should have a chance to participate in the recreational program in the school. There are numerous games and activities in which blind students can participate individually or within a group such as, handcrafts, painting (for partially sighted students), reading stories, poems, playing music, school trips, some table games like dominoes, cards, chess, and all the other activities that everyone enjoys.

In conclusion, one can emphasize that the visually impaired student can accomplish many things, if the teacher believes he can. It takes more time and more effort, but ultimately, he can accomplish whatever he desires.

VI. THE ROLE OF THE COMMUNITY

The community also has a responsibility to provide physical education and recreational services for the visually impaired, just as they do for sighted people. Visually impaired individuals should have the same rights to participate in community sports and recreation as others. Through the community sports clubs and sports organizations, many visually impaired persons could be active participants in sports competition. In 1976, a group of USA blind wrestlers defeated the Toronto University Wrestling Club in Canada. (Dr. Charles E. Buell, 1982). Mike Zorick has placed four times in the top four in his weight class in national USWF competiton. Doug Blubaugh wrestles; he must remove his glasses to lower his vision to that of legal blindness. In 1960, he won NCAA, NAAU and Olympic titles, and was selected as Outstanding Wrestler of the World; a few years ago, he was elected to the Wrestling Hall of Fame. Sightless Tony Maaczynski of Delaware placed sixth in a National Karate Championship and earned the black belt. Legally blind Trischa Zornof, Mission Viego, California, has qualified two consecutive years for the NAAU Championships. (Dr. Charles E. Buell 1982).

No individual in the community can succeed until given the opportunity to try. If the visually impaired person is given the opportunity to show his capabilities, he can be a good member of the community. When visually impaired adults join the community sports clubs and organizations, they have a good opportunity to practice and play sports; with good supervision and training, they have a chance to be successful in sports, both locally and internationally. All of these recreational and sports activities lead the visually impaired to a full adjustment in their lives and also gain respect and a positive attitude toward the blind in society.

VII. Conclusion:

Physical education and recreation are very important issues for the visually impaired from early childhood to adulthood. Because of this, visually impaired people, regardless of different cultures and ages, should have a chance to participate in physical activities.

Family, school programs, teachers and the community should all work together toward the same goal: to help the visually impaired gain maximum achievement in this field. By having a good understanding of visually impaired individuals' needs and capabilities and by adapting the activities and the equipment, visually impaired children can succeed just as sighted children do.

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VOCATIONAL REHABILITATION
A SURVEY ON EXISTING PROGRAMS AND OTHER FACTS

A paper presented as part of the requirements of
The First International Exchange Program
September 1988
The Carroll Center for the Blind
770 Centre Street
Newton, Massachusetts, USA 02158-2597

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Abstract

This paper has been prepared as part of the curriculum of the First International Exchange Program at the Carroll Center for the Blind in Newton, Massachusetts. It is based on material from the Carroll Center, the Research Library at the Perkins School for the Blind, information from study tours of rehabilitation agencies for the blind and visually impaired in the Greater Boston area and articles published in the "Journal of Visual Impairment and Blindness." It is an attempt to discuss some of the vocational problems blind and visually impaired people have in obtaining vocational counseling and adequate preparation for successful entrance into the working world. A variety of different programs and initiatives concerning the organization of vocational counseling and other services throughout the rehabilitation process were reviewed.

STATEMENT

The services in the Rehabilitation Center for the Visually Handicapped in Marburg, West Germany do not include vocational services such as vocational counseling or job placement. There have been discussions among staff members as to the need for having a professional who is specialized in this field as part of our rehabilitation team. The purpose of this study is to understand how vocational counseling can be introduced into our rehabilitation system for blind and visually impaired clients.

A review of the literature dealing with vocational counseling and preparation for the work world has uncovered both positive and negative aspects. There are conditions wherein the blind and visually impaired person is over-protected and stays dependent. There are also programs where the visually impaired individual is helped to stand on his own, speak for himself and therefore, become more effective in his job search by taking a more active role.

REVIEW OF LITERATURE AND OTHER INFORMATION

"CAREERS UNLIMITED"

In November 1968, Benjamin Pumo, a vocational and employment consultant of the Greater Detroit Metropolitan Society for the Blind, published an article in the "New Outlook for the Blind" (now called the "Journal of Visual Impairment and Blindness") which was concerned about inappropriate employment of blind and visually impaired people. He claimed that blind and visually impaired clients had inadequate knowledge of the working world and did not make themselves aware of the need for occupational planning until they became directly involved in the competitive work force. He also stated that very often the vocational counselor was so over-burdened with his work that he did not have the time to provide his clients with sufficient information on the choice of a job. Therefore, seeking employment never really included a challenge to the client to indentify his own vocational strengths in order to find an enjoyable occupation in which he could use his best skills. In addition, the majority of clients were dependent on over-protective environmental settings, having never experienced taking risks in life. The outcome of the above-mentioned problems proved to Pumo that the responsibility of preparing the blind and visually impaired individual for the working world should remain with the agency, institution or individual having access to the blind and visually impaired person at the time of onset of his/her blindness. In 1967, a special program was designed by the Metropolitan Society of the Blind that addressed blind and visually impaired teenagers in early adolescent years, involving parents, teachers, and professionals in the Field of Education and Rehabilitation, as well as employers of business organizations. This program was called "Careers Unlimited" and had three basic objectives:

1. Dissemination of information about occupational opportunities and abilities of blind and visually impaired individuals to visually impaired students, teachers and employers.

2. Community involvement and community organization.

3. Career development programs for blind and visually impaired students enrolled in public schools.

The goal was to enable blind and visually impaired individuals to formulate their own vocational planning by the time they applied for vocational rehabilitation.

COLLABORATIVE PLANNING: TRANSITION FROM SCHOOL TO WORK.

In 1986, the National Leadership Institute for Personnel in Education and Rehabilitation of the Blind and Visually Handicapped, sponsored by the American Foundation for the Blind, developed a program that addressed the same population as did "Careers Unlimited". This program was a model for transition from school to work. It suggested training ideas, strategies and activities in order to help blind and visually impaired students explore different career opportunities and develop their own vocational plans. In the beginning of the program, transition needs, goals, and objectives of visually impaired students, parents, professionals, "adult role models", and employers were identified to develop an interdisciplinary approach. The final transition model was put into practice by agencies throughout the United States. One example of a transition program in practice is the "Washington State Model Transition Project" which was called "Work Out". Blind and visually impaired students were brought together in order to explore different career opportunities and develop their own vocational plans. In phase one the "Work Out" job fair was held wherein students met with successfully employed blind and visually impaired workers to learn about opportunities in the job market. In phase two a followup visit of each student who had attended the job fair took place, to discuss his/her career exploration plans. This visit also provided an opportunity to involve the teacher and a school district representative from the vocational education department in the career guidance process. Phase three included summer work placement for blind and visually impaired teenagers through the local Job Training Partership Act (JTPA), or other resources. This gave the students an opportunity to earn extra pocket money while building confidence and gaining valuable work experiences.

PROJECT WITH INDUSTRIES (PWI)

It was the Vocational Rehabilitation Act of 1968 that first introduced the Projects With Industry Authority which has successfully brought rehabilitation and industry together in a variety of innovative projects. Projects With Industry is not a rehabilitation program; it is more akin to a marketing program. PWI becomes a marketing arm of the rehabilitation system to identify the manpower requirements of industry and to provide a supply of qualified workers who meet those requirements. The approach that the Electronic Industries Foundation (EIF) takes embodies three marketing principles in the Project With Industry concept: product orientation, customer orientation and sales orientation. The product is a trained and qualified worker produced by the rehabilitation process; the customer is the employer. Supplying the qualified disabled worker (product) to the employer (customer) is the sales orientation. (Jim Geletka, EIF, Washington D.C.).

Since PWI started in 1968, changes have occurred, in both the rehabilitation movement and in industry, that have had the effect of supporting PWI and aiding its growth and success.

Perkins Project With Industry (PPWI) is one outcome of the partnership; in this case it is between the Perkins School for the Blind and business/industry enterprises. It is designed to assist New England employers and those blind or visually impaired persons who are seeking employment. In addition to assisting in the job matching/job placement process, PPWI researches and designs new applications for high-tech and low-tech computer oriented adaptive devices to increase job opportunities. Specific services of PPWI include job site surveys to identify jobs which can be reasonably adapted for blind or visually impaired persons; applied adaptive engineering, to develop necessary work accommodations and provide job site training with support for corporate training staff as they integrate a visually impaired employee.

SENSORY AIDS FOUNDATION

Sensory Aids Foundation is a non-profit corporation, which provides direction and management of programs aimed at increasing the abilities and independence of people who are blind or visually impaired. In September 1975, Sensory Aids Foundation and the California Department of Rehabilitation, administering federal funds granted by the Rehabilitation Services Administration of the U.S. Department of Health, Education and Welfare, established a program to develop new employment opportunities for job-ready persons who are blind or visually impaired. The vocational coordinators at Sensory Aids Foundation cooperate with rehabilitation counselors and the Sensory Aid Foundation staff in providing the required technical assistance in solving job task problems. Their experience is that Sensory Aids technology increases a blind or visually impaired person's performance on the job. Aids make it possible for the person to work competitively within the time and quality standards required of sighted workers who perform similiar tasks.

JOB RETENTION FOR BLIND AND VISUALLY IMPAIRED EMPLOYEES

Programs that help blind and visually impaired employees to retain their present jobs have been developed in coordination with Sensory Aids Foundation, low vision specialists, engineering consultants and job placement specialists, as well as rehabilitation counselors. Job retention programs were established to help visually impaired persons take advantage of all the resources available in choosing and keeping a job, training for a new job or finding a more advanced position.

The Low Vision Department at the Carroll Center for the Blind recently started an official program for job retention. It is meant to identify cases where an employee experiences vision loss. The program provides consultation on how the employee can retain his present job or retrain for another appropriate position within the company. Very often the person is taken aback by his/her vision loss and does not want to admit that he/she needs help. This results in poor work performance and the risk of losing his/her job. This is why much publicity is necessary in order to inform employers, ophthalmologists and rehabilitation counselors about existing job retention programs. Job retention programs, to be effective, utilize solutions which include the use of computer equipment, low vision aids, auditory devices, contrast, improved lighting, braille labelling and sometimes the relocation of offices.

CAREER CLUB FOR JOB SEEKERS

The first program, known as the Career Club for Blind Job Seekers, was established by the Oregon Commission for the Blind in 1979. This Career Club was originally designed to assist blind clients with a specific vocational goal in developing job-seeking skills. The Club's approach came from Nathan Aztin's Job Finding Club. Aztin, a behavioral psychologist, believes that by working together as a support group, job seekers are more encouraged, find better jobs more quickly and have higher entrance salaries than do those who use traditional job hunting methods. The Career Club concept is effective in helping blind and visually impaired clients take greater responsibility, enabling them to become more active in pursuing employment. The Career Club shifts the traditional emphasis from making a job developer or placement person responsible for finding clients a job to teaching clients how to actively and successfully find their own jobs. Better results occur when both client and job developer are actively developing opportunities. Daily group meetings, combined with daily job search activities, make job seeking a job itself and result in faster, more satisfactory placements. Club meetings are held four days a week for a four-week period. A weekly support group followup is provided for those who have not yet found employment. The schedule includes: an explanation of the individual's visual condition and the employer's reactions to the condition, field trips to employment-related agencies, presentations of various speakers about preparation for the work world, role-playing, resume and application preparation, job resources as well as non-verbal communication and grooming. In order to be eligible for Career Club, a client should have a goal in mind, good mobility skills and an adequate living situation. In other words, the client should be ready to begin work.

FUTURE ASPECTS OF EMPLOYMENT FOR BLIND AND VISUALLY IMPAIRED PEOPLE IN THE "INFORMATION AGE"

In March 1984, Benjamin J. Pumo wrote a comment on the changes of the employment situation due to progression into the "information age." He explains how telecommunication systems, computerized production equipment and the labor being replaced by robots, is going to effect the needs of the future labor market. Many occupations in which blind and visually impaired persons are employed at present may be replaced by robots. On the other hand, home-based telecommunication systems will allow employees to perform their work at home by using home computers. Pumo demands that blind and visually impaired people must be helped to prepare to meet with the challenges of the computer age. The Greater Detroit Society for the Blind has developed new programs to meet the particular needs of blind and visually impaired people concerning these changes. Pumo stresses the fact that despite the demands of the "information age", career educators working with blind and visually impaired persons must never lose sight of the continuing need for instruction in basic activities of daily living. These activities include socialization - to promote better interpersonal relationships; communication - both oral and written; grooming and proper health care; orientation and mobility, and good work habits such as dependability, resourcefulness and self-discipline.

Discussion

The foregoing review described several vocational programs taking place over a period of 10 years. The programs have different backgrounds and organization forms, including associations for the blind and visually impaired, rehabilitation institutes, partnership initiatives, one private agency and one self-help group concept. Benjamin J. Pumo is the leading figure in vocational rehabilitation; it was bound to happen that, in the review he is mentioned in the beginning and at the end and can almost measure the development of vocational matters with the contents of his two articles—one written in 1968 and the other in 1984. Pumo is, and has been, a very strong advocate in vocational rehabilitation, and demands that blind and visually impaired persons should be adequately educated and prepared to cope with vocational planning in an active and realistic sense.

Pumo, in his article about the employment situation in the computer age, appeals to everybody working with blind and visually impaired youngsters to be aware of the changes that are caused through the use of high technology and what this can mean to our rehabilitation systems. The change from manufacturing to the "information age" is very closely linked to the power of industry. Let us take the example of Projects With Industry (PWI). PWI is considered to be a partnership initiative through which private industry and the State Federal Rehabilitation Program are brought together to enable blind and visually impaired people to become successfully employed. Electronic Industries Foundation (EIF) is one of the most powerful partners. Jim Geletha, one of the leading figures in the project with industries movement, states that "EIF's approach to PWI attempts to establish industry's total involvement to the point where they feel that they own the program. It is their program, it is not the rehabilitation organization trying to penetrate the employment arena to solicit jobs."

New technology, while it can be very helpful to blind and visually impaired persons regarding employment opportunities, has a negative side to it, as in the case of telemarketing. The work can be performed at home and you neither meet nor see the salesperson. Sales jobs are probably the single fastest growing occupation in the Western World today. According to "Forecasting International" of Arlington", Virginia, about eight million new jobs will be created before the turn of the century. A perfect method to hide disabled people away....What about integration?

On the positive side, the job retention program for employees with vision problems, such as the one offered by the Carroll Center for the Blind is a very practical down-to-earth inservice program. The staff are vision consultants with backgrounds in low vision and engineering. Through intense publicity work, employers, especially, are addressed. Employers can help employees who are hesitant to admit their vision loss find adequate professioanl consultation.

There is only one more program to be looked at: "The Career Club", a kind of self-help group. This concept seems to be the most effective program in many respects as the participating club members share their experiences in job seeking in the daily meetings and support each other in coping with difficulties. Through this type of support system blind and visually impaired job seekers are ready to take greater responsiblities and become more active in pursuing employment.

Conclusions

The conclusions I drew from all the materials discussed in my paper provided me with a good basic idea about the core of vocational rehabilitation. Benjamin J. Pumo's articles I found especially realistic and predictable. Learning about the changes that are happening, and will happen with the progression of the computer age, is affecting me deeply, for I am concerned about the outcome of technology and the power of industry. I also wonder how it will affect my work in the field of rehabilitation in the future. I agree that programs using sensory aids, such as low vision aids, are needed, as would be job retention programs in the rehabilitation center where I work in Germany. The Center has a low vision services department and a department for electronic devices and computers, but we need someone with an engineering background and someone who knows about marketing principles. Thus, we could offer vocational rehabilitation that includes vocational counseling.

When I return to Germany, I want to start a study about vocational rehabilitation, in order to learn more about the present situation and to prepare myself for the changes that are going to affect my country. I also want to find out how well prepared the blind and visually impaired population is in regard to vocational planning, the work world, job opportunities and the change-over from an industrial economy with jobs in manufacturing to an information economy with jobs in telemarketing, sales, database processing, etc. I shall bear in mind what Pumo reminds us of in his article about the employment of blind and visually impaired people in the computer age:

> "Career educators working with the visually impaired must never lose sight of the continuing need for instruction in basic activities of daily living such as socialization - to promote better interpersonal relationships; comunication, both oral and written; grooming and proper health care; orientation and mobility for independent activities."

There is hope in this!

RESOURCES AND REFERENCE GUIDES

1. Occupational Information Library for the Blind

The Occupational Information Library for the Blind was developed by the Greater Detroit Society for the Blind with the help of an expansion grant from the State of Michigan's, Department of Social Services. A Division of Services to the Blind, directed by Benjamin Pumo, this library is organized in a card catalogue system. The data for this card catalogue was assembled from surveys sent to schools, agencies, and organizations concerned with the education, rehabilitation, placement and employment of the blind. The catalogue contains and describes several hundred different jobs being successfuly performed by blind and visually impaired people. It covers all areas of work such as professional, semi-professional, clerical, sales, technical and agricultural jobs as well as industrial and the self-employed. The Occupational Information Library can be useful to rehabilitation and placement counselors, blind and visually impaired students enrolled in public and residential schools, blind and visually impaired adults preparing to enter the work force for the first time, newly blinded persons, school guidance personnel, teachers of the blind, occupational information libraries and potential employers. All jobs are titled and coded to conform with the U.S. Department of Labor Dictionary of Occupational Titles.

How and where to subscribe to the Occupational Information Library for the Blind:

Occupational Information Library for the Blind
Greater Detroit Scoeity for the Blind
1401 Ash Street
Detroit, Michigan 48208

2. Sensory Aids for Employment of Blind and Visually Impaired Persons: A Resource Guide.

This is a resource guide which is compiled by Sensory Aids Foundation and published by the American Foundation for the Blind. In order to secure appropriate sensory aids for employment tasks, the Sensory Aids Foundation Staff conducted a systematic search for employment-related sensory aids. When a sensory aid was not available to perform a specific function, a special device was created or a regular instrument was adapted for use. The results of this search were compiled in the publication of the "Sensory Aids Guide." The guide is comprised not only of those sensory aids that have been used, adapted, or developed in various situations in the project, but also other employment-related sensory aids about which the staff has obtained information.

All items listed in the Resource Guide must be ordered from the vendor listed at each catalogue entry. Sensory Aids Foundation has no merchandise for sale and does not fill any orders for items listed in the catalogue.

For ordering:

Sensory Aids for Employment of Blind and Visually
Impaired Persons:
A Resource Guide.
Sensory Aids Foundation
399 Sherman Avenue, Suite 12
Palo Alto, California 94306

Published by American Foundation for the Blind, 15 West 16th Street, New York, New York 10011 (1978)

3. Aids and Appliances Review
The Carroll Center for the Blind

The Carroll Center publishes a professional review designed to inform consumers, teachers and administrators about the nature of aids and appliances used by the visually impaired population. Each issue is devoted to one single topic or concern. For example, past issues have been on sunglasses for low vision clients, large print and large print typewriters, handwriting guides, speech compressor machines, etc.

The objectives of the Review are to:

1. Act as a resource for teachers and other professionals who work with the visually handicapped

2. Provide resource materials organized around the assessment of aids and devices of low, rather than high, technology.

3. Provide functional assessments of available aids rather than purely academic assessment of these aids.

4. Compile a listing of national and/or regional supplies and distributors of these aids with their approximate costs. Currently,

the Review is distributed free of charge to persons who are able to make use of it. Comments and participation by all professionals who receive the Review are welcome. Anyone interested should contact:
Mr. Robert McGillivary
c/o Carroll Center for the Blind
770 Centre Street
Newton, Massachusetts 02158

4. Economics and Equity in Employment of People with Disabilities - International Policies and Practices

This book is a product of a symposium entitled "International Symposium on the Employment of Disabled People: Economics and Equity" which was held in 1984. Fourteen nations were represented in this symposium.

These were the main topics of the sessions:

Opening Session:	An Overview of Policy Issues
Session 1:	Employer Initiative - Policy Approaches
Session 2:	Employer Initiative - Policy Implementation
Session 3:	Government Initiatives
Session 4:	Partnership Initiatives
Session 5:	Symposium Outcomes and Recommendations for the Future

This book was published by:
The University Center for
International Rehabilitation
Michigan State University
513 Erickson Hall
Michigan State University
East Lansing, MI 48824-1034

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19 Vocational Rehabilitation, Magda Buchholz

SPECIAL DIFFICULTIES ENCOUNTERED BY MINIMAL CEREBRAL PALSIED & BLIND CLIENTS IN A HABILITATION PROGRAM

A paper presented as part of the requirements of
The First International Exchange Program
September 1988
The Carroll Center for the Blind
770 Centre Street
Newton, Massachusetts, USA 02158-2597

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Occupational Therapist
Irsa, Belgium

FOREWORD
PART ONE: MEDICAL NOTIONS

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  - B. Localization of Cerebral Palsy
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- III. Different Consequences of Cerebral Palsy:
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A. Definition
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CONCLUSIONS

REFERENCES

FOREWORD:

This paper is needed as an educational tool more than a medical or psychological evaluation.

PART ONE - MEDICAL NOTIONS

I. Introduction

"A normal newborn baby is helpless and totally dependent. Gradually, as the brain matures, he begins to control his position against gravity. Head control is, therefore, one of the most important factors of human development in the physical and mental field. Another important factor in a child's development is the ability to extend and use his arms for support (arms are used for pushing ourselves to sitting position). Head control and the ability to use our extended arms for support are fundamental patterns of normal motor development against gravity and for balance which matures in us very early in life.

What goes wrong with cerebral palsied children?:
Due to brain damage in early childhood, the development of a cerebral palsied child is retarded, stopped or becomes disorganized and abnormal. In many children, therefore, one sees insufficient or total lack of head development and the inability to use their arms and hands for support, for reaching out, grasping and for manipulations. The retarded child also lacks balance and control of his posture, especially in the areas of sitting, standing and walking.

II. Classification and Meaning — We find different classifications:

A. Type of Cerebral Palsy
B. Localization of Cerebral Palsy
C. Etiology Order

A. Type of Cerebral Palsy:

1. Spastic: limbs are stiff
2. Athetoid: the child has uncontrolled and continuously unwanted movements
3. Rigidity: very stiff postures and movements
4. Ataxic: the child has no balance; movements are unsteady
5. Tremor: uncontrolled constant tremor and shaking of body parts

6. Mixed cases: more than one condition

B. Localization of Cerebral Palsy:

1. Quadriplegia: spastic, athetoid, rigidity in four limbs
2. Triplegia: spastic in two legs and one arm
3. Right Hemiplegia: right arm and leg
4. Left Hemiplegia: left arm and leg
5. Paraplegia: two legs
6. Diplegia: two arms
7. Monoplegia: one limb (usually one arm)
8. Cerebellar type: ataxia

C. Etiology Order:

1. Birth Injury - spastic
2. Developmental - athetoid
3. Prematurity
4. Post Consulve
5. Post Infectious
6. Post Cerebral Trauma
7. Cerebral Anoxia
8. Hydrocephalia Basis
9. Post Operative
10. Prenatal Toxemia
11. Post Embolie
12. RH Factoria - Athetoid

For each type of Cerebral Palsy, there is a different degree of rehabilitation that can be reached.

III. Different Consequences of Cerebral Palsy

Because of the relationship of Cerebral Palsy to the central and peripheral nervous system, it is common to find disabilities that include sensory (visual, auditory), mental (intellectual, emotional, personality, behavioral), perceptual (visual, auditory, motor and tactile) and neurological (convulsive disorders such as epilepsy).

A. Motor Consequences:

The Cerebral Palsied child is not only limited in movements which are stereotyped but is also limited in his reactions and his responses to being moved. The muscles of a Cerebral Palsied child also work in groups or patterns, but those patterns are abnormal and uncoordinated because of brain damage.

Basic differences between normal and abnormal sequences of movement:

1. Sitting up from lying on the back:

If a normal child wants to initiate any movement away from the reclining position, his first movement is to bend his head forward while simultaneously bringing his shoulders and arms forward, thus rounding the top of his spine.

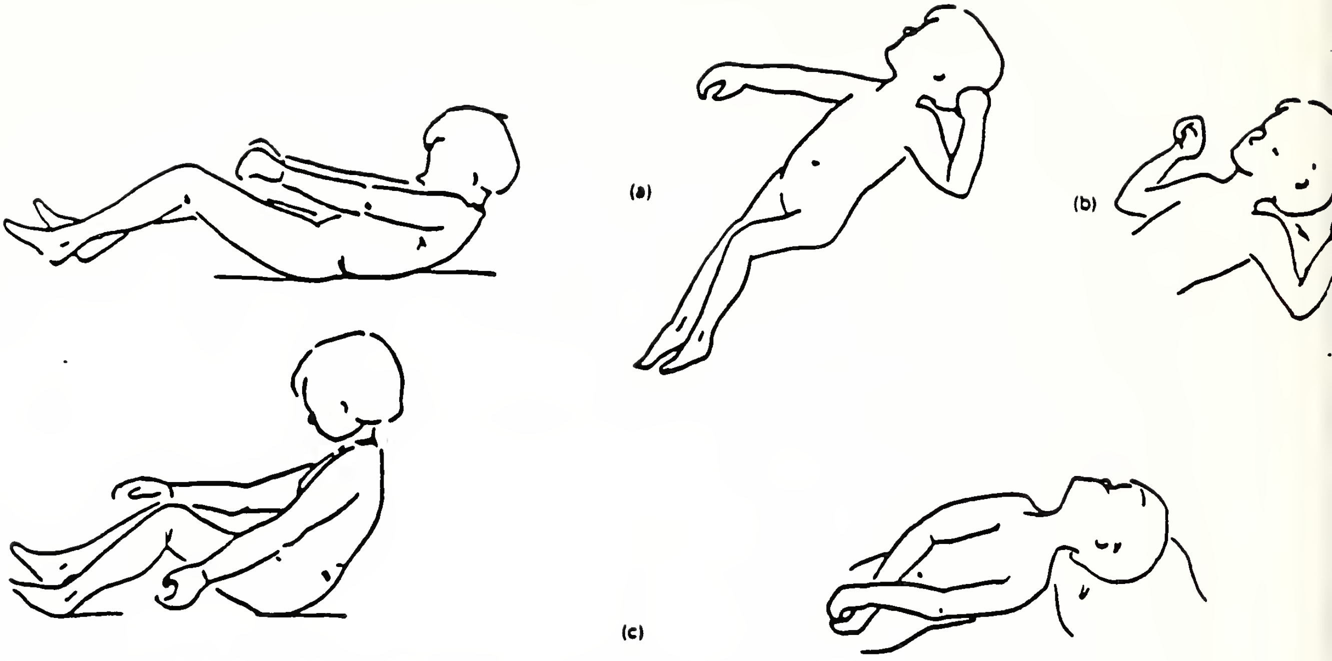


Figure 1 *Normal* child sitting up from lying on the floor, raising his head forward and at the same time bringing his arms and shoulders forward, hips and knees bent. Stage two, sitting up from lying on the floor.

When the Cerebral Palsied Child lies on his back we see that his head is often pressed back; sometimes his shoulders and his arms are also pressed back. He is unable to initiate the bending forward of his head, shoulders and the rounding of his spine.

2. Rolling:
   If a normal child wants to initiate the movement of rolling from the from the back to the stomach or vice versa, the first movement is to lift his head and shoulders while at the same time moving between his shoulders and hips. This movement is called "rotation". There is, in fact, a degree of rotation in nearly all his movements when he rolls or gets up from the floor.

   When the Cerebral Palsied Child attempts to roll, there is no rotation. The absence of rotation is due to his inability to control the position of his head and to his spasticity or athetosis, preventing coordinated sequences of movement between his shoulders and hips. Such movements as getting off the floor are impossible.

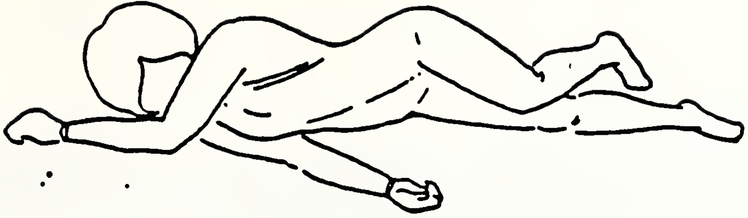


Figure 5. A *normal* child rolling, showing movement between shoulder girdle and hips, i.e. rotation.

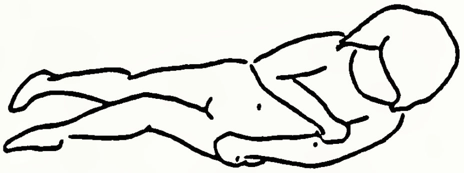


Figure 6. *Spastic diplegic* child rolling over, showing the effect on the hips and legs when he initiates the movement of rolling from the head, shoulders and trunk only.

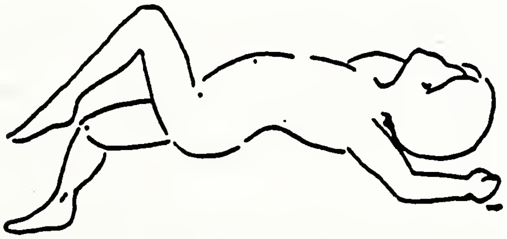


Figure 7. *Athetoid* child rolling over, showing the effect on the head, shoulders and arms when he initiates the movement of rolling from hips and legs only.

The result is that the initiation of the movement and the movement itself is performed in an abnormal manner.

B. **Visual Consequences:**
The majority of C. P. children have ocular problems. And six to fifteen percent of blind children have cerebral palsy. Spastic quadriplegia is frequently accompanied by optic atrophy or nerve hypoplesia. Cerebral palsy and visual impairment is a difficult combination.

Hiles (1975) reviewed ophthalmological literature related to visual defects connected with cerebral plasy and found that occurrence of visual abnormalities varied from report to report. The most frequent visual defects were strabismus, optic atrophy, nystagmus and significant refractive errors. Other less common defects included field defects, retinal dysplasias, congenital cataracts, chorioditis, coloboma of the macula or irisptosis and cornea leucoma.

The presence of visual disorder is a serious handicap and ideally should be identified early in life.

C. Hearing Consequences:
The typical spastic child has normal hearing, while over half of the athetoid children have defective hearing. Woods (1957) has described the common hearing defects in cerebral palsy as being of two distinct types, a high-frequency deafness and an auditory agnosia. High-frequency deafness seems to occur more often in a special type of athetosis, that is the athetoid who appears to have some ataxic component frequently associated wih defective upward gaze movement of the eyes. Woods attributes the pathology in this type of athetoid as being in the cochlear nucleii. The hearing defect in this child is only partial and is rarely if ever complete. In many cases the deafness takes the form of high-frequency loss.

D. Sensory Consequences:
Much interest has been shown recently in the sensory changes in cerebral palsy and the effect or the bearing these sensory changes may have on the use of standard intelligence tests in children, as well as the considerable influence that sensory difficulties may have on methods of education for the C.P. child.

Tizard, Taine and Crothers indicated that the sensory impairment was in some way the main reason for the lack of use of the affected limb, in the congential cases of hemiplegia.

It may be noted that although sensory defects are most commonly found in the hemiplegia, the defect of sensory discrimination may be present in association with other movement disorders, and in fact may be partially responsible for the defective movement. The sensory loss may be in the nature of a cortical defect, since learning difficulties some children experience are suggestive of sensory and perceptual difficulties associated with parietal lobe damage.

E. Handedness and Laterality Consequences:
An important study led by A. Harry Moore School, New Jersey, showed that handedness, considered from the standpoint of hand dominance or hand function, approximately 44 percent of the spastics were left-handed and over 50 percent of athetoids were left-handed.

Hand analysis indicated that the spastic group has a large percentage of members with one good hand, or better, while in the athetoid group only one-half has such desirable hand function.

Phelps has long advocated that dominance difficulties in the spastic hemiplegic child may be a common cause for lack of speech or delayed speech. This speech problem, however, is not the only one that is present when hand dominance is lacking. Woods noted that in children with right hemiplegia there was a higher than normal incidence of left eyedness and in those with left hemiplegia of right eyedness, and that in athosis there was a high incidence of left eyedness.

In most rehabilitation centers, the affected arm in the hemiplegic child is treated vigorously without regard to the possible disastrous consequences of such treatment when it involves the inherited dominance side. This is particularly true in those hemiplegias acquired at birth, during infancy, and in the preschool period. Before any treatment is undertaken for the handicapped arm of the hemiplegic child, it is of extreme importance to determine whether the handicap is on the inherited dominant handedness side or the subdominant side.

F. Seizure Consequences:

The incidence of seizures is a common problem which gives rise to much anxiety during the course of comprehensive rehabilitation of the cerebral palsied child.

Perlstein, Gibbs (1947) reported seizures in 86% of spastic patients and 12% of athetoids.
The electroencephalogram has been particularly helpful in this clinic in making a decision as to whether or not an abnormally low intelligence quotient or abnormal behavior on the part of the child was epileptic form. These children have benefitted considerably from anticonvulsive treatment started early in the comprehensive rehabilitation program. It is encouraging to note the great emphasis now being placed on the study of various new drugs which are proving to be very effective in the control of both grand mal, petit mal and petit mal variants.

G. Psychological Consequences:
Another study led by A. Harry Moore School, says that the intelligence of C.P. children is below normal, as determined by the best intelligence testing devices used by thoroughly competent psychologists whose work is devoted almost entirely to C.P. children. Comparison of the intelligence of spastics and athetoids showed the former to have a median IQ of approximately 20 points below normal. These children, however, aided by small school classes and educational therapy, show satisfactory achievement results; they usually graduate at an age of one to two years older than pupils in regular grade schools.

IV. Modalities of Treatment:
The treatment of a C.P. child is a multifaceted problem. Treatment includes an understanding of the general nature of

cerebral palsy, the general condition of the patient, an understanding of the parents, the speech, and mental defects of the child as well as the motor disability. It aims to aid the child in reaching a position as close to normal as possible making the individual a useful member of society, useful to himself and thereby giving him a happier adjustment to a handicapped existence.

A. Orthopedic Surgery:

For many years, the care for the C.P. child had been given by the orthopedic surgeon. The selection of patients for surgery depended on many factors, including the level of the patient's intelligence. Between 1948 and 1963, most deformities which were corrected were: Eqiunus deformity of the foot, knee flexion deformity, adduction contractures of hips.

Phelp's work (1957), however, does emphasize that it is not sufficient to correct a deforming contracture alone; that the muscle imbalance of the extremity must be corrected by surgery and that proper postoperative splinting, physiotherapy and observation should be maintained until the end of the growth period.

B. Bobath's Method:

Berta Bobath in 1967 wrote: "The view that very early treatment will give the best results is stressed and the reasons for this view are given. The need for an early recognition of cerebral palsy is emphasized, as treatment stated later, i.e., after the age of 1 or 2 years, when athetosis or spasticity are stronger and abnormal patterns of posture and movement established, can achieve only limited results. The important principals and aims of treatment are given. Normal motor development, child's expanding and complex spontaneous activities, is outlined. The importance of a thorough knowledge of these basic motor patterns for assessment and for the planning of treatment is stressed."

The aims of treatment are:

1. To develop normal postural reaction and postural tone against gravity for support and control of movements.

2. To counteract the development of abnormal postural reactions and postural tone.

3. To give the child, by means of handling and play, the functional patterns he will use later on for feeding, dressing, washing, etc. for self help.

4. To prevent the development of contractures and deformities.

V. Definition of Minimal Cerebral Palsy with the Visually Handicapped: A population of children who have some (or many) components of cerebral palsy with a light degree of visual impairment. It seems that most of those Minimal Cerebral Palsied & Blind (MCPB) children have spastic components with a predominant side; they are low vision (a few of them are totally blind) and they have normal hearing.

Although they can walk (without specific aids), speak, write and understand some elementary concepts, they demonstrate a typical cerebral palsied function: walking uses abnormal motor schemes, poor coordination, long reacting time, a hyperactivity and hypersensitivity.

Most of these children follow a regular education with a special schedule including physical, occupational and speech therapy and special classes or resource classes for the visual handicap. Some Minimal Cerebral Palsied and Blind (MCPB) children particpate in a summer program at a rehabilitaion center for the blind.

PART TWO: HABILITATION PROGRAM FOR MINIMAL CEREBRAL PALSIED BLIND CHILDREN AND TEENAGERS

I. Introduction:

During six weeks in summer, the Carroll Center for the Blind, Newton, Mass., offers a special program for blind teenagers called the Youth in Transition Program. Each client has a full schedule including: Orientation & Mobility, Low Vision, Communication, Personal Management, Shop, Eye Care, Counseling, Fencing and Recreation.

During the summer of 1988 amongst blind clients there were a few Minimal Cerebral Palsied and Blind teenagers, who participated in the Youth in Transition Program. In the following pages practical suggestions which can be helpful will be described for each course.

II. Orientation and Mobility:

A. Definition:

The Orientation and Mobility Department provides the necessary methods for blind individuals to achieve the maximum level of independence in their everyday movement through the environment. This freedom to move about is one of the prime elements in developing self-confidence and is central to a client's program.

Success in mobility skills has direct carryover in all activities that require independent movement through space and, since this incorporates a complex set of processes, the orientation and mobility program provides instruction in a number of specific areas of development.

1. Mobility:
   The Orientation and Mobility Program consists of a structured sequence of lessons enabling the person to utilize a functional body schema, spatial relationships, concept development, residual vision (if any) and perceptual motor behavior in moving about his/her environment safely, efficiently and with confidence. The long cane is the primary tool utilized where the individual learns to refine his sense of touch and ability in using the cane effectively.

B. Practical suggestions:

1. Body Image:
   Because his motor skills and his vision don't work normally, the MCPB child has some difficulties in building a regular body image. It is important that, most of the time, he touches a part of his body and verbalizes what is happening with that particular part. For example: Before crossing the street the client has to look (if any vision) in different directions (cars coming from 4 ways). Spontaneously, an MCPB will move his entire body to look everywhere and he will lose his original position.
   That is why it is important that he can dissassociate his head from his trunk and feel movements of his neck. He has to touch his neck during the movement of his head while keeping his body in a good position for crossing the street.

2. Spatial Concepts:
   Usually, trouble occurs during integration of elementary spatial concepts. Confusion of similar spatial terms or combinations of different spatial notions is common. It is hard for an MCPB teennager to visualize a space (like a map). Working directly from the body, again, is the best way to integrate complex spatial notions. After this stage, working with concrete situations can be helpful.

   This is what I feel S. McClosky Gamble was referring to when in 1980 he defined such a process as: "A movement program demands a one-to-one individualized program to establish a favorable atmosphere for success."

3. Motor skills:
   Mobility requires different sequences of movements:
   A. Standing up from a sitting position and vice versa (in the bus, for example)
   B. Walking
   C. Stepping off and onto a curb
   D. Ascending and descending stairs
   E. Pushing and pulling doors, etc.

   The mobility instructor has to examine all those movements before proceeding with outdoor work. He has to consider that a spastic child requires slow rhythmical movement, because fast movement increases spasticity of muscle tone and decreases ability to produce good-quality movements.

4. Cane technique:
Because of his poor general coordination, an MCPB child may have to use a modification of the cane technique, such as sliding diagonal cane technique (at least for low vision clients), or "as sliding the cane along the ground when moving it from side to side to give a tactual clue about the placement of the cane tip." The holding of the cane may also be different because of grip trouble, hand placement and wrist motion. The mobility instructor has to find the best adaptation on the grip for an optimal cane holding.

   It is more important for an MCPB teenager to have a good coverage with his cane than to have perfect technique.

5. Crossing streets:
This skill requests some important abilities:
   A. Understanding of car directions at an intersection (parallel and perpendicular traffic). At first, indoor practice is needed. The best way is working from his body; put his arms out parallel, ask him to walk in parallel to the instructor, to face the wall perpendiculary, to walk perpendicular to the wall, etc. Only after practice, work in real life situation along the street.

   B. Understanding the differences between intersections, with and without traffic lights.

   C. Motor skills: Step down from and up onto curbs. Because the MCPB teenager loses time in stepping off the curb when crossing the street, it would be recommended that the mobility instructor advise him to start stepping down by putting his heels against the curb before proceeding to cross.

   D. Reaction time may be slow for the MCPB client, causing him to take longer to process information about his environment and longer to respond to it. The most common length of a traffic light cycle is 30 seconds. The mobility instructor has to evaluate the time (less than 30 seconds) for the crossing of his client. Otherwise, the MCPB client should solicit aid to complete the crossing safely.

6. Veering:
Because of ambulation and coordination problems, veering is common. A visual handicap is a contributing factor of veering. Sandra MacCloskey Gamble (1980) defines two approaches which can be used: "Stress auditory skills so that the client can

line up with traffic patterns, or use a solid building line to give a straight line clue; consistent feedback for self-awareness of movement is helpful so that the client can fully understand his tendency to veer and the direction his veer usually takes."

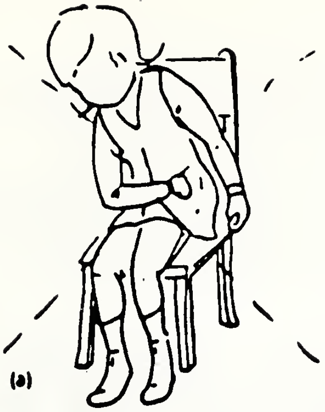
7. Stress: Stress can precipitate abnormal motor troubles, such as an increase in muscle tone, which narrows the base of support and makes balance more difficult. That is why it is important to make an optimal safety decision before crossing. This advice can be helpful: Before scanning and choosing the optimal moment for crossing, the MCPB client has to take one or two deep breaths to be more relaxed.

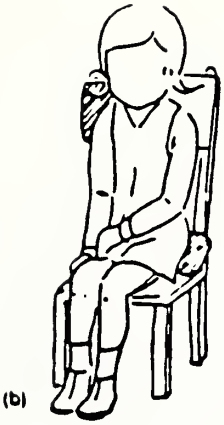
8. Memory:
Because his poor visualization of routes, the MCPB client needs to use his memory. The mobility instructor has to use SIMPLE instruction as well as memorized routes.

III. Personal Management:

A. Definition:
The Personal Management Department aids the client in achieving self-reliance in the many tasks of daily life. The client may learn these tasks through special adaptive techniques or through the use of special aids, completely, safely and efficiently. To this end, the department offers instruction which can be grouped under the following headings:
1. Techniques of daily life,
2. Clothing care
3. Household maintenance
4. Meal planning and food preparation."

B. Practical Suggestions:
It will be too long here to explain each skill in detail which can be helpful for the MCPB client. The following are some basic suggestions of the best conditions in which to teach:
1. Be sure that the client is in a stable position.
Sitting Position:
    a. Feet flat on the floor
    b. Knees and hips flexed at 90 degree angle
    c. If necessary, some support on one side for hemiplegia
    d. The lower part of spine in contact with back of the chair.





2. The position of Personal Management Instructor is important also: speaking to the client at the same eye-level (if any vision) helping the MCPB client with head control.

   A. Standing position:
   Because of increasing muscle fatigue (due to imbalance of muscle tone), the Personal Management Instructor has to pay attention of the amount of time spent in this position. The Minimal Cerebral Palsied Blind client needs some "physical breaks"; by sitting for a few seconds, or by a back support (like a wall). It is common that an MCPB client needs to increase his base of support to have an optimal balance.

3. For a spastic hemiplegic client:
   The Personal Management Instructor has to be careful that the handicapped arm is not in an abnormal motor schema. If there is any motor function, it is important to analyse in which way the handicapped arm can participate in the activity of daily living. The arm may in a passive, activo-passive, or in an active way. In the worst cases (no motoric function) the handicapped arms has to be in an extended position, i.e., the handicapped hand has to hold a "plot", put on the table, during a sitting ADL function.

4. Be sure that the MCPB client can discriminate the temperature.

5. The common adaption for any fastening task is VELCRO.

IV. COMMUNICATIONS

A. Definition:

The Communications Department recognizes that a visually impaired individual must learn alternative methods of communication with himself and others. Clients are given instruction in the area of communication that will attain the most independence while recognizing their specific goals and abilities. Specific areas that are taught are as follows: Braille, Talking Book, Typing, Tape-Recording, Abacus, Spoken Communication.

B. Practical Suggestions:

1. Fundamental to achieve an optimal result in the communication area is the sitting position. Communication instructors have to suggest what the the best chair might be, even if it needs some adaptations.

2. As in the Personal Management class, it is important to pay attention to the handicapped arm (for spastic hemiplegia).

3. For an atheoic client, a pair of lead bracelets can be helpful in reducing abnormal movements of arms; that gives better control of hands and fingers.

4. Braille:

   Apparent retardation often results in:
   - a. Sensory losses in form, proprioception and two-point discrimination
   - b. Uncontrolled movements of hands
   - c. Trouble directing both hands
   - d. Time lag in identifying Braille symbols
   - e. Inability to associate one type of learning with another
   - f. Loss of concentration if lesson is too long
   - g. Inability to be disciplined

   Mrs. Doris M. Guyre, teacher, (1958), gave some suggestions regarding those difficulties:
   - a. Transcribe drill material horizontally rather than vertically.
   - b. Keep a familiar lay-out for all pages.
   - c. Use wider line and letter spacing for a longer period before going to standard spacing.
   - d. Transcribe lots of varied drill and reading material at

the clients level, but in simplified words.

  - e. True and False questions.
  - f. Dictation for writer: concentrate on having the client write whole sentence without checking his work; then have him look for errors.
  - g. Follow recognized reading methods of sighted people, but have shorter periods to avoid nervous fatigue.

5. Typing:
When only one hand is typing, the other hand has to be in an accurate position on the desk (see before).
Because of his lack of finger discrimination, the MCPB client may use one or two fingers. In any case, he is slower in this skill than other clients.
Work organization is very helpful; using a bookstand is recommended.

6. Handwriting:
This skill requires some specific abilities—eye-hand coordination, gripping, spatial concepts.
(In the aids and applications market, there are some gripping aids for writing which can be helpful.).

V. LOW VISION SERVICE

A. Definition:

The Low Vision Department is established on the premise that the visually impaired individual should be given every possible opportunity to utilize his residual vision to its maximum potential. Through a multidisciplinary approach, the department prepares the client to function to his maximum ability in his own environment.

B. Low Vision Training:

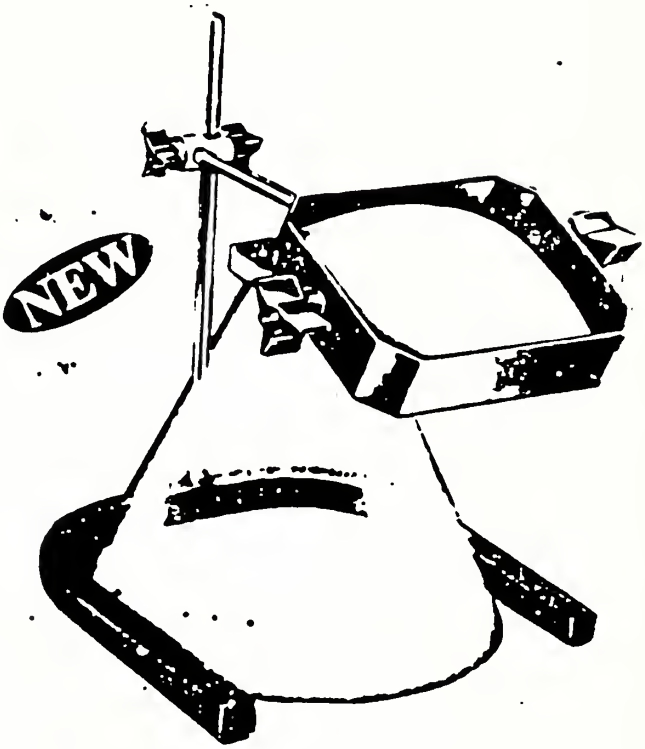
Clients who have been assessed as having functional residual vision become involved in low vision classes. Through these classes the individual gains an understanding of the nature, capabilities and limitations of his visual impairment. Remedial instruction is geared towards training the individual in the practical utilization of his remaining vision. This usually involves instruction in the use of optical aids with which one must become familiar and comfortable if significant gains are to be made. Direction and encouragement are continually necessary as an individual gains further insight into his/her visual potential and goals. The client will then be guided in how best to utilize residual vision in all situations of Center programming and lifestyles."

C. Practical Suggestions:

Poor motor control, lack of proprioception sense, and difficulties in gripping steadily the aid being manipulated, the MCPB client has problems using it in an accurate way.

1. Distance Training Technique:
   - a. A support system must be designed to stabilize the aid using the terrestrial telescope; the instructor can determine the alignment of the optics of the telescope in relationship to the pupil of the eye by looking for the telescope's image of the brightly lit object on the cornea.
   - b. Using a larger monocular telescope or a pair of binoculars is easier to control.
   - c. For hand tremors, a heavier aid produces a heavier grip and hence reduces unwanted movements.
   - d. Spectacle-mounted or clip-on head-borne aids may be a compromise. If the weight of a clip-on monocular telescope causes the eyeglasses to slide down, an elastic Velcro strap may be attached to the back of the temples or worn behind the head to secure the glasses, or the clinic may prescribe spectacle frames with temple pieces that wrap around the back of the ear (comfort cable).
2. Near Training Technique:
   - a. High-back armchairs, tables of an adequate height, and reading stands to ensure good posture.
   - b. Simple large-print materials.
   - c. The provision of tactile reinforcement, such as a pipecleaner attached to the eye-glasses to establish the

correct working distance.
d. The provision of auditory feedback (letting the student know he is correct) and a relaxed environment.
e. Modify aids to minimize the use of fine motor movements.
f. Using stable magnifiers with heavy support.



CONCLUSIONS:

Since the number of minimal cerebral palsied clients involved in programs for the visually handicapped is increasing, attention now needs to be given to innovative programs.

In other words, while we agree that a MCPB client needs an habilitation program due to his blindness; it is important that all instructors are aware of his motor, sensory and mental difficulties and adjust the training to enhance success.

The principal areas needing attention by the instructor are:

1. Avoid an increasing of muscle tone (spastics)
2. Support stable posture
3. Work in symmetry, if it is possible (for hemiplegia)
4. Use simple words, short sentences without details
5. Be pleased with any stage gained
6. Work for only a short time if it is an intensive activity.

Each MCPB client has such different problems and unique capabilities that individualized programs are necessary.

This paper is supposed to give some practical suggestions which might be helpful when working with MCPB clients. It can be the start for a deep and interesting research.

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VISUAL ENVIRONMENT ADAPTATIONS FOR INDIVIDUALS WITH LOW VISION

A paper presented as part of the requirements of
The First International Exchange Program
September 1988
The Carroll Center for the Blind
770 Centre Street
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I. INTRODUCTION

This paper will discuss why and when the environment should be adapted to individuals with low vision, what are the environments that should be adapted, and will propose specific adaptations for a residential school for the visually-impaired.

II. LOW VISION DEFINITIONS

The World Health Organization defined people with low vision as "having significant visual handicaps, but also having significant usable vision" (Faye 1976).

In 1980, Ann Corn developed a definition of low vision which was recognized by the field and was stated as: "One who is still severely visually impaired after correction, but who may increase visual functioning through the use of optical aids, non-optical aids, environmental modifications and/or techniques." (Corn, 1980).

Genensky (1980) defined the partially sighted in the following way: "The partially-sighted are persons whose visual activity in their better eye, even with the help of ordinary eyeglasses, does not exceed 20/70, but is better than light perception or light projection... or, persons whose visual field in no direction exceeds 30 degrees. These are generally people who, even with the help of ordinary eyeglasses, are not able to read newspaper type, but who can distinguish shapes and forms and sometimes color. Nearly all of them can use their eyes; with the help of more sophisticated visual aids, they are able to do things like read print, write with a pen or a pencil, or copy from a chalkboard, and move along even in unfamiliar environments without the help of a guide dog, white cane, or sighted person."

Most visually impaired persons have some useful vision. Genensky, Berry, Bikson and Bikson (1979) estimate that approximately 94% of all visually impaired individuals have visual acuities which fall somewhere between 20/70 and 20/200. These individuals can function visually for most reading tasks when the appropriate optical and non-optical aids are available.

This paper refers to people who are still severely visually impaired after correction, but who may increase visual functioning through the use of optical aids, non-optical aids, environmental modifications and /or techniques. This paper will refer to all low vision persons as visually impaired.

Some characteristics of visual impairments are:

1)Loss of contrast sensitivity
2)Poor depth perception
3)Poor eye adaptation to the sudden change in light intensity
4)The need for a variety of lighting situations to perform visual tasks (They may prefer bright light or average light or dim light).
5)Loss of the ability to see details

6)Loss of parts of objects in view
7)Defective night vision
8)Defective color vision
9)Glare problems

These characteristics of visual impairment depend upon: a) the type of visual loss (central field, peripheral field), b) the degree of visual loss, and c) the stability of vision (short-term fluctuation). All the present additional difficulties of either a physical or emotional type.

III. ENVIRONMENTAL ADAPTATIONS

There are three main types of adaptable environments. They are:

a)personal environment (home, office, or work setting.)
b)public buildings and outdoor areas.
c)rehabilitation centers and residential schools for visually impaired.

These environments can be adapted specifically to people with low vision. For example, a public building should be generally visually adapted in order to facilitate day to day functioning, and to give more safety and independence for the visually impaired population.

The question of environmental adaptation of rehabilitation centers and residential schools for the visually impaired is currently being discussed among professionals in the low vision field. One view held by some of the rehabilitation professionals is to adapt the person to the environment, not the environment to the person. According to this approach, people with low vision may not have stability of vision (including both: long-term prognosis and short-term fluctuations, they should be trained in non-adapted environment. That would enhance their functioning. Those who support this approach would have no environmental adaptation in their rehabilitation programs. This approach prevents over-protective situations.

The other approach prefers to make the visual environment more visible in order to demonstrate a model in which the low vision person will learn which environmental adaptation enhances his functioning best and to stimulate the residual vision of partially-sighted persons. According to Corn, "Using or modifying environmental cues is not a skill that occurs automatically, just because the person is visually impaired. Therefore, it is important that professionals involved in the rehabilitation of the visually impaired be aware of cues, possible modification and additional aids which can improve their client's ability to function."

According to this approach, a rehabilitation center is also a "readaptation" center and has to teach the partially sighted to adapt himself to his visual loss, but also to teach him how to adapt his environment to his impairments.

This paper will propose a model of environmental adaptation for a residential school for the visually impaired and will try to propose a solution for the aforementioned controversy.

IV. PRINCIPLES OF ADAPTATION

A) To heighten the contrast of objects
B) To make light adaptations
C) To enlarge images and objects
D) To change the physical environment

A. To Heighten the Contrast of Objects

The clinical assessment of a patient's visual acuity is measured with a standard of Snellen's eye chart which measures the eye's ability to discriminate fine detail (high spatial frequency) at maximum contrast (black letters on a white background). Most stimuli in daily life have a much lower contrast and spatial frequency (coarser detail) than Snellen's optotypes. Contrast sensitivity tests present stimuli in various spatial frequencies at low contrast.

Literature written about Contrast Sensitivity: (Arden 1978/Comerford 1978), Minassian and Jones (1978), Bodis-Wollner (1972), Singh H. et al.(1981), Hitchigs et al (1981) demonstrated contrast sensitivity and its relationship to occular pathology. In some diseases the loss of contrast sensitivity is more pre-eminent and disturbing to the patient than the loss of visual field.

According to McGillivray (1980), increasing an object's contrast will make it more visible, while enhancing the contrast between elements of the environment, which is probably the easiest modification to make, since it does not require changes either in the size of existing objects or in existing lighting and fixtures. McGillivray states that there are two major kinds of contrast: 1) color contrast, 2) light/dark contrast. Often, with enhanced contrast, less light is needed for visibility. Adapting the environment to enhance contrast may be achieved by evaluating individual activities for ways in which the principles of the two kinds of contrast may be applied.

According to the American National Standards Institute, no one color combination is best. Sensitivity to specific colors varies with eye conditions. For low vision people, colors whose gray values are distinct should be chosen. Many who cannot distinguish different colors see different grays.

B. To Make Light Adaptations:

The use of correct lighting for the visually-impaired is very important. LaGrow (1986) stated that the use of correct lighting can result in the prescription of lower powered optical aids, or can be used in lieu of such aids in certain cases.

Lester H. and Lehon Ed (1980), say that although research involving normally sighted persons indicates that the effort required to perform visual tasks is reduced when the light is increased, some controversy still exists concerning the optimal amount of light this population needs. Most experts agree, however, that a minimum of 20-foot candles is required for most tasks.

They also mention that a cursory review of the literature indicated that higher levels of light improves the performance of individuals with defective vision, but it also suggests that some persons with defective vision require less light than others to perform the same tasks. With increasing luminance, visual resolution, intensity discrimination, and depth perception are improved. Color discrimination is possible only at the higher luminance levels. According to LaGrow (1986) the currently accepted position concerning recommended lighting for visually-impaired individuals is that, individually identified and specified lighting is required for these persons to attain optimal visual performance. However, there is presently no formula for predicting the placement or intensity of a light source needed for any given low vision person, nor are there any specific rules for determining optimal illumination for visually-impaired individuals. McGillivray (1984) stated too that with all forms of vision loss the problem is to gain enough light, without causing glare, to support functioning.

C. To Enlarge Images and Printed Objects

People with low vision may not have the ability to see detail. By increasing the size of an image they may be able to see detail. There are different ways of enlarging images and printed objects. They are: 1)moving closer to the object, 2)larger print, 3)optics (loup, telescopes, etc.), and 4)electronics (c.c.t.v., computers, etc.). When adapting the environment, the second option should be utilized to its fullest extent - enlarging the print, because objects with large letters are more identifiable.

D. To Change the Physical Environment

Changes in the physical environment are important when helping people with low vision make adjustments to their vision loss. Any low free-standing object is a serious hazard, epecially to people who suffer loss of peripheral vision in the lower segment of the visual field. Horizontal objects whose edges project beyond the base are especially liable to cause collisions. The lower the object, the greater the possibility of tripping over it.

When adapting the environment to people with low vision one should consider whether other adjustments are required like texture, or auditory sounds.

V. A MODEL OF ENVIRONMENTAL ADJUSTMENTS FOR RESDIENTIAL SCHOOLS

This model proposes environmental adaptation for low vision children in a residential school. In principle, I agree with professionals who state that artificial and laboratory environments should not be created. We do not want to over-protect children with low vision. We want to prepare them to function in all environments. At the same time however, the children have to have optimal conditions adapted to their specific vision problems in order to improve their visual capabilities and to maximize their visual function.

The school building needs no special adaptation except for the personal environment of the student in the classroom. This personal environment should be adapted specifically to each student's needs in regard to light: quantity, localization and color of the light.

The Dormitory

a. Bedrooms: Solutions must be individual. There is not one solution. No two people have the same type and degree of visual loss, the same kind of life-style, the same needs and wants. For example, if he has low contrast sensitivity, creating good contrast between foreground and background (e.g. white/black), between blanket and wall (e.g. dark blue/ivory) wall and door etc., will be helpful.

Light adaptations call for more illumination and printed or textured surfaces. Lighter walls give more light, but if glare from walls is a problem, dark walls or patterned wallpaper tend to absorb light. If sunlight through windows into a dark room is troubling, polarized window glass can reduce glare from outside. With this solution, there is little loss of light. Another suggestion is to have curtains to control the amount of glare from outdoor light. Keeping ceiling or area lights on, even during the day, will equalize lighting from indoor and outdoor sources and will reduce the irritating effects of glare on the eye.

Bathrooms: A wall-mounted magnifying mirror with an extension arm should be used. Using the contrast adaptation principle, one should be sensitive to using a dark toothbrush against a light background, or brightly colored soap, to choose towels with colors that are in good contrast to the walls. Contrasting strips can be placed in the tub at usual level of water in order to help the low vision child determine how much water is in the tub. Wall-to-wall carpeting helps people avoid slipping on wet floors. These adaptations are actually recommended for bathrooms, where there are no visually-impaired persons. Lighting in the bathroom involves putting additional lighting over tub or shower, but fixtures must be impervious to dampness.

Kitchen: This paper proposes the availability of both adapted kitchens and non-adapted. There are five kitchens in the residential school to which this paper refers. The children have the opportunity to work in each of these kitchens and are taught how to function in each of them, leading to flexibility in kitchen skills.

We will describe here a model of adaptation that will give the ability to function optimally with limited vision. The adaptations in the kitchen will be general, as it serves a group of children.

> 1)Lighting: Use of indirect lights to prevent glare. Adding dimmers to lamps permit self-selected levels of illumination which can be varied throughout the day according to the type of task being done and the child doing the task.

2)Enhancing contrast: e.g., a) Kitchen tools: use a dark-colored cutting board for light-colored foods and light-colored cutting board for dark-colored foods. b) Use dark and light background (walls or furniture) to facilitate the pouring of colored liquids into transpaprent glassware. For example, milk against a dark background, coffee against a light background. c)In the kitchen it is important to avoid bright patterns, because they are often difficult visually in a large area, and small objects placed on or near them may be difficult to locate.

3)Enlarging images: this principle can be used in the kitchen by marking things (as cans and bottles) in large-print.

Living room: In the living-room, general adaptations, which fit most children, are the same as those proposed for the kitchen. The specific adjustment for the living-room would be to leave the lights on while watching t.v. This is especially helpful for people with nystagmus, because the bright light from the television in a darkened room appears to oscillate.

Steps, Stairways and Corridors: In order to gain guidance for mobility, and to avoid hazards, the 4 concepts of making the environment more visible should be used:

1)Paint door frames dark to contrast with white walls.
2)Make sure stairwell walls are lighter or darker in color than railings.
3)Avoid reflective materials.
4)Add lighting to stairs to help define the individual steps. (Overhead to help define the tops of the steps (while ascending) and beneath the stair rail when descending.
5)Mark the leading edge of each step.
6)Put color-contrasting tape around the light switches to make them stand out against the wall.

VI Conclusion

As rehabilitation professionals concerned with the visually-impaired population, we must consider adapting three types of environments for people with low vision. 1)personal environment, 2)public buildings and outdoor areas, 3)rehabilitation centers and special schools for the visually-impaired.

The third type of environment should be adapted only partially in order to prepare the visually-impaired individual to function in natural, non-adapted areas.

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A BLIND CHILD IN MY CLASS!

A paper presented as part of the requirements of
The First International Exchange Program
September 1988
The Carroll Center for the Blind
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Newton, Massachusetts, USA 02158-2597

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1.0 INTRODUCTION

1.1 Introduction

It cannot be said with certainty what is the best choice for a blind child with respect to where to study during his school years: in a resident school for the blind or integrated in a public school with sighted children. There are many reasons for a child to go to one or the other; both systems have advantages and disadvantages. Ultimately, the decision belongs to the child's parents. After the choice has been made, the teachers have to do their best with that choice.

This paper will provide teachers, who have or are going to have visually impaired children in their classes, with basic information regarding the advantages and disadvantages of both systems.

1.2 What being blind means

A definition of blindness is: the person who with his better eye is not able to see more than 20/2000 or with a field no wider than 20 degrees, with correction (glasses). But in every-day life, if someone tells us that his son is blind, more often than not negative feelings are experienced about blindness: "poor parents", "poor child", "how unlucky.... I would prefer not to have a child if he were blind." These feelings reflect more our fears than the fears of those who work directly with blind people. Imagination sometimes gives more importance things. People imagine that it is the most terrible, hopeless thing that can happen to a person; and think that the blind person also feels that way.

All this is the result of a lack of contact with blind people, and as we have become adults these ideas have settled all too well and are difficult to change. The achievements of someone who is blind amaze us, but we don't realize that it is usual behavior and can be achieved by most blind people.

I was speaking with a woman and told her that someone had phoned. "How could I answer the phone if I were at home alone?", she asked. She thought that a blind person was unable to use a phone. To avoid this kind of ignorance about handicapped people is necessary if we want a more just and humane world. Integrating and allowing handicapped children to play and study with other children is one way to achieve this.

I want to finish with a piece from the book, "Feeling Free", which reflects in the extreme what to be blind signifies for a large part of the population. "Before I went totally blind, I used to think that people who couldn't see wouldn't be able to do anything on their own and that they'd always have to have someone around to help them out. All I could think about was a little man on a street corner holding a tin cup."

1.3 Why Integration

Integration is a signal that our society is changing and becoming more comprehensive through the acceptance of minorities. It is the development of levels of tolerance and understanding that makes it possible for disabled people to become successful workers, independent and useful to the society to which they belong.

Handicapped people want to be part of the world and society in which they live. They don't want to be rejected and hidden, but to live and enjoy life just like anyone else; they want the right to live and be considered people.

Some handicapped people have participated in rehabilitation programs and have become productive citizens. Through their effort and the help of rehabilitation teachers, mobility specialists and others, they have become competent, to the amazement of themselves and that of others who didn't know what to expect.

1.4 Why Integration in the School

Why not? If they are expected to be integrated in normal life, the earlier they are integrated, the better the success that is achieved. The ignorance about what a handicapped person can achieve or do is because of the lack of communication. If integrated when a child the blind person tends to be more accepted.

The blind child learns how to act, how to cope and how to live in a sighted society in which he will be. He will be more accepted and have higher expectations for himself. But, we have to keep in mind that not all handicapped people are able to integrate; so it is with a child. Each child must be assessed in order to know what is the best for him.

2.0 Advantages, Disadvantages and Problems Found When Integrating A Child

(In this first section, we will outline the advantages, first for the child then for his peers, for his parents and finally for his teachers.)

2.1.1 For the child:

He can live with his own family as do sighted children.

He is preparing his way by attending an integrated school, to be integrated in his job later on.

He is going to be more accepted by sighted people. Even he may accept himself better than if he were in a residential school

He learns to cope with sighted people and to compete in order to develop the same skills which will enable him to become more independent and master of his own life.

He is attending the school with children he knows from his own neighborhood and community.

He is going to see the world in a more realistic way, especially with respect to achievements and expectations.

He is accepted more not only by other people, but by his own parents who are more satisfied in knowing that their child can attend the local school and their fears about the child decrease.

They do not find themselves forced to suffer extensive or long travelling time between home and a residential school.

He grows up with the awareness that he belongs to the society in which he lives, not only to a "disabled society".

2.1.2. For the Peers:

Their fears and negative comments are minimized with the opportunity to grow up with handicapped people.

The children learn that people who are different are not neccesarily disabled or useless.

The children learn how to respect others and to look for some way they can help. For example, making sure doors are totally opened or closed, not half-opened, etc.

The children learn that a real justifiable reason exists as to why they have to keep things tidy and in order. It saves time for them and problems for the blind child. They learn in a practical way to respect others, and the need for respect is not imposed on them by the teachers.

Imagination: the other children seek out ways for the child to participate in their games. They understand how the child sees because they usually "imitate" the child's vision by covering their eyes. This is described in a book entitled Patrick, Yes, You Can. When they wanted to play softball, Patrick and his classmates invented ways to include him in the game.

Knowledge about their eye condition, hygiene, prevention of accidents, opens the door to learning about the function of the other parts of the body. The child can be used as a stimulus in developing an eye health condition program from which all the other children are going to benefit.

Children exposed to the different materials and methods that the blind child uses usually find them interesting. They develop a more open point of view about the needs of other children and at the same time this makes the blind child feel important as the only one in the class "who knows how to read with just fingers!"

Observational and verbal skills are more developed as a result of their need to describe the environment to the blind child. Because of their work with the blind child's other senses they are more aware of the importance of the other senses.

2.1.3. For the Parents:

Parents are more likely to accept the child if he spends more time with them than if they don't have much contact during school years.

Prior to this experience, parents are concerned for the safety of their child and can be overly protective. They don't allow their child to engage in things, like walking, jumping, and exploring because of the negative consequences entailed. To develop properly, the child must be stimulated, given the maximum experience possible; and when the parents see their child playing with others, many of their fears disappear or diminish.

To live near the school gives the parents the opportunity to play an important role in the education of their child. They are kept informed about what their child is doing. They are given the opportunity to speak about their fears and problems with the professionals who work with their child in school; and they are encouraged to participate in the program followed in the school.

2.1.4. For the Teachers:

Teachers share the advantages that the schoolmates and friends have which were listed earlier. In addition to those mentioned, teachers also experience:

Having the opportunity to speak about the function of the different parts of the body and different handicapped people. In a practical way: the body is given importance.

Explaining why it is neccessary to respect differences among people. It is a possibility that each of us could become handicapped...and this can happen in less than a second.

Using creative imagination in teaching. The regular teacher alone, or with the help of the itinerant or special teacher, will experiment with different materials or ways to teach the child different concepts. They also learn how to cope with a new child who uses different material.

When the teacher feels that through his/her efforts he is giving the child advantages, such as the opportunity to live with his parents, which is important for a handicapped child, he/she will have the satisfaction that he/she is giving that handicapped child the right to grow up with a greater degree of normalcy.

Through the collective efforts of peers, teachers and parents, they are working to gain society's tolerance, understanding, and acceptance of handicapped people since these children, sighted and handicapped will be the force of a future society.

2.2 Disadvantages and Problems

In many cases the blind child is rejected at school for the following reasons: there is lack of knowledge about what to do; the staff thinks the school is not prepared to receive a blind child; there is ignorance about what a blind child can achieve; there are negative feelings about blindness; the integration is imposed on the school and is not welcome...this is even more evident when the teacher was not consulted.

The child is avoided in the classroom as if he were a piece of furniture, isolated at his desk. The teacher should have been open to having the child in the class and enough support for him/her should be provided. Children and adults may be quite cruel to the child, teasing him, laughing, and joking about his low vision. The child may feel isolated if he is considered "strange", and moreso if he has the knowledge that he is not wanted by the the teacher.

The child should not be over-protected by his teachers and his peers. Also, the child becomes less independent when he receives more help then neccessary. He must be treated like a "normal person" and not receive special treatment or privileges that the other students don't enjoy.

Integration is a team effort; if time is not used properly, more time is expended than neccessary. The teacher has to spend more time with the blind student than with the other children, but not much more time, if the program that the special or the itinerant teacher has prepared is used.

The schedule of the child has to be carefully prepared and monitored so as to minimize the amount of time spent out of the classroom, but enough time should be allotted to provide the child with the individual attention required. This extra time and planning doesn't have to be overstated. The children should see films and videos, visit centers and read stories, in order to encounter examples of handicapped people who are useful and working.

Some school teachers don't pay the neccessary attention to the blind or low vision child in their classes because they think that the special or itinerant teachers are taking good enough care of the child. But they have to know that they are the most responsible and the most important teachers, because the others are only there to help and to assist them and to work with the child on special tasks.

There are some arguments that low vision or blind children have less friends than sighted children; but, when sighted children were asked, they all answered in about the same way: nobody is happy with his friends, the number of friends or their behavior. The lack of friends could be a result of the fact that the child is not accepted by the others because he can't play or enjoy games in the same way as the others, or he is considered boring, or he himself feels this way, so he thinks he is not able to get along well with other children because of his limitations. This view of himself may make him feel rejected or less desirable and therefore, he tries to alienate himself.

In a resident school he may feel "more normal" and included, but I think it is not good and it is uninteresting when all your friends have the same difficulty and are impaired like you. When the school year finishes, everyone has to go home and the handicapped friends are not always there. The lack of having other friends at home provides a lonely and isolated home environment on holidays. If the child is never integrated, then his chance of being able to work with sighted people is minimized.

The children who are integrated in school and live at home have peers that come from the same neighborhood. They have more opportunities to make contact with them after school, on weekends and holidays. But the truth lies in the fact that making friends depends more on the child himself than the others.

Noises that the braille or the typing machine or other resources they use may disturb the teacher and the other children.

The visually impaired child has to remember to respect the others and be considerate. For instance, the blind child can use earphones when using his tape recorder, and rubber pads when using his braille machine or typewriter. Eventually, children get used to the sound and even moreso when they are concentrating on their work.

The low vision person's handwriting is messy because it is a difficult task for someone who has to be so close to the paper to write big and direct the pen at the same time. They have to be able to write the letters and make them legible. Handwriting is one of the skills that low vision children have to work more on. They may use darker or wider lined paper to make it easier to see the lines and to write. Typewriting is another resource that is convenient to use.

The teacher may think he doesn't want the responsibility of having a blind child in class. But he must realize that he doesn't need to be a superteacher. He only has to try to do his best, as all ethical workers would. The specisl and itinerant teachers are there to help him. These teachers have been provided to give assistance and are not inspectors that are going to evaluate the teacher's work, but only to help complete it. The teacher must know that the differences between blind children and sighted children are not great. The program and the lessons are the same; only a few changes must be made, which he alone doesn't have to make.

2.3 Under what conditions is a residential school for blind children recommended:

It would be advisable for a child when he desires to go to a special school.

The parents should be willing; parents make the decision, but it is the task of the counselor to advise them as to what is best for their child.

If the child has already been integrated and it isn't going well.

If the parents cannot accept the child or are over-protective.

To be with children with the same impairment makes the child feel like he is part of a group. The child's anxiety about beginning school is much less.

Being farther away from their parents may make children become more independent. Not all paents are willing or capable of looking after a blind or visually impaired child.

When the child is too passive.

If the handicapped child imposes strain on the family and the family cannot cope with the difficulties.

For some parents, it is easier to leave their child in a residential school than to face the child's handicap.

The key word here is flexibility. The child can be integrated in a school and, depending on how he is coping, he may be sent to a special school for extra support and observation. In the Danish systems, children go from one month to a year, and the child may change from one school to another if it is deemed more beneficial.

2.3. Using Special Schools

One-year option: Each year, the child lives away at school and is allowed to visit his parents a few times. With this option, the child usually receives a good eduation and makes many friends. But, the child may have emotional problems because a visually impaired, or handicapped child, needs more parental support than others.

One-week option: The child spends the weekends with his parents and lives at school during the week.

During the course of one or two months: The child goes to school where he is integrated and receives extra support a few times each month; he can go more frequently after school time.

During holidays: The child works on skills he wants to develop more fully. Fun is the first priority; it should be compared with summer programs in which sighted children participate.

3.0 GENERAL INFORMATION

3.1 General Recommendations for the School Teacher

Have the same rules for all the classmates. As a member of the class, the blind child has to submit to the same standards and responsibilities as other students. If this doesn't happen, he is going to be in a "privilege" situation, which is not good for him; he will then feel protected and different. To the others who interact with him, he will appear strange and preferred, which may result in rejection.

The child has to learn to compete in order to achieve something without more help than neccessary. When this happens, the child learns that he has value; that he is in school to learn and to socialize and should be given every opportunity to do so.

Children want to have their own experiences and ask to do many things by themselves. We should include the child in making decisions about his education and future since he knows better when he is receiving more, or less, help than necessary.

Doors cannot be left half-open; they should be totally open or closed to prevent the child from bumping into them.

When giving a blind person cards, money or papers, you should tell him what you are giving him and for what purpose.

The child must be given directions from his perspective...not from the perspective of the speaker. This teaches other children involved with the blind student to give good, clear and precise directions.

The child's peers and teachers should know how to act as a walking guide for the child. The child can explain how it is done. Through learning to be a sighted guide, there is discussion about the blind child's other resources, living skills, and other areas about which the children are curious.

The blind person likes to know about things around him. All descriptions are welcomed.

Address a blind person by his name, since he cannot see you point or signal to him.

A balance has to be found as to what the child can achieve: too low or too high expectations are equally bad. With low expectations the child will work only as hard as the expectations that are placed on him. He may even think that the teacher knows more than he does and that he really isn't capable of achieving more. Too high expectations for someone means that he has to work harder, and this produces anxiety. If the child fails, he feels frustrated and thinks that he is not normal or intelligent.

If the child is alone, for instance, in a room, let him know you are there.

When you speak with someone blind whom you haven't seen for a long time, do not expect him to recognize you, since voice memory is not as high as visual memory. To avoid embarrassment, introduce yourself to be sure the blind person knows to whom he/she is speaking.

Do not be nervous about using the word "see" when speaking with a blind person since they themselves use this same expression, such as "perception" or "perceived."

Normally, a blind student does not need to leave the class earlier or later than the other students.

To involve the parents in the task of the child's education makes them directly responsible for what happens with his education. If the teacher finds himself alone with low involvement from the parents, his enthusiasm may diminish.

Contact with other handicapped people is very beneficial. They can give lectures or classes. The children may be timid at first, but they soon get used to it and it encourages the other people to speak about themselves. It is also a good way to share knowledge of different resources and methods they normally use.

Heroes of stories do not always have to be the most beautiful or the strongest. To read short stories about a blind child as the protagonist, opens children's minds to the realization that they are not so different.

If the teacher knows the child's histoy, he tends to have a more positive attitude about accepting him into his class.

The other children may want to try to feel and behave like the handicapped child. If this happens, children should put blindfolds on and try walking with and without a cane. They soon realize it isn't so easy and sympathize with the blind peer. The sighted child who experiences this understands and feels closer to his blind peer. This also may be used practically to better develop their other senses.

Teachers tend to use the term "blind" to categorize all low-vision children, but blind and low vision are not the same. Many low-vision children don't have to learn braille because using other resources is enough. Also many people combine sighted and braille writing.

It must be kept in mind that changes in the teacher's behavior must begin by a change of his attitude.

The child must not be allowed to use his impairment as an excuse but must be encouraged to do the same things that the others do; he needs to develop a positive image of himself by doing, living, and trying new things.

The parents should be involved as much as possible in the program at school. The relationship must be complementary between home and school. Both parties need to work together to enable the child to achieve and be more independent and self-assured.

Not all resources are available, useful or advisable for every child.

Not all low vision children have glasses to correct their vision problem. Using fat glasses does not signify that the child can, or cannot see correctly.

Large type is not helpful for all low vision children, nor are magnifiers which may not be available. Patience and practice are necessary in learning to use these devices.

[57] A Blind Child in My Class, I. Ruiz.

3.2 Teachers who normally participate

The Resource Teacher:
The resource teacher teaches braille reading and writing with the Perkins brailler, slate and stylus, as well as the abacus which has been adapted for the blind. Older children are taught how to use the typewriter and handwriting, since it is expected that the blind child be able to write his name.

The Special Teacher:
There is not always a resource teacher, since there needs to be a few blind students together in one school. Not all blind or low vision children need to have a special teacher or even an itinerant teacher; because some of the children have acquired all the necessary skills to work by themselves. They may go to a summer course or receive visits from the itinerant teacher a few times a year or upon request. What is required depends on the needs of the child.

It is not the same in all countries. The itinerant and the special teachers have different responsibilites, upon which they agree. Sometimes one of these teachers is not available and all the work is completed by one teacher. The success of this kind of education depends on teamwork composed of the parents, teachers, the child and his peers.

3.33 Resources the low vision child uses at school:

Drawing Kit:
The school teacher can reproduce some of the drawings on the blackboard.

Recording:
It makes it possible for the child to listen again to the class because braille or sighted writing for low vision children is slower.

Slate, stylus, Perkins writer, magnifiers and telescopes:
These are not always available to all children. Practice and training is necessary before they can be used in the classroom.

Typewriter:
When the child is older and has to hand in written exercises, this is the most advisable method.

Enlarged books:
This is the solution for many (but not all) low vision children, because as the letter is being enlarged it becomes less clear, and for many children, the form, the shape and the darkness of the letters is what is important. Another inconvienence is that enlarged books are heavier and bigger than the usual ones. One solution to this weight problem is that the child can leave one of the enlarged books at school and another at home. It is also possible to carry just the lessons on which the teacher is going to work during the week. Also, they lack colored illustrations. It is recommended that the normal book be kept so that the child can see the colored pictures.

Special lined paper is available with darker lines, adapted to the child's vision loss, enabling him to be able to write better.

The blackboard should have the most contrast possible for the low vision child to see. Green-colored blackboards are the best.

The student needs enough space in the classroom to keep his material in order.

The desk should be slightly sloped for low-vision children. This makes reading easier and it helps to avoid back problems. This is also advisable for sighted children, but moreso for low-vision children as they have to be in close proximity to the book, which is not comfortable.

A photocopier that enlarges enables the teacher to enlarge exercises or any other papers for the child without having to wait for the itinerant teacher. thus saving time and giving more efficient service for the child. This is a resource that most schools have.

Resource classrooms are not always necessary, although it is easier for the child to keep some of the bigger resources there like the Optacon, typewriter, etc.

The CCTV is very useful for low vision children in school. It can be kept in the classroom or the resource room. There are drawbacks: It is expensive and if the parents buy it, they may prefer to keep it at home, which is quite helpful. Also, it requires space, it has to be near a plug, and it is tiring to use.

For physical education the use of contrast color is needed or the use of other resources also, such as the sounding ball.

3.3.2. Subjects and Resources

Math:
The concepts needed to be learned are the same as those for sighted children, but the low vision child needs to be given more examples than sighted children require. When children are young and starting school, they can be introduced to the abacus.

Many low vision children don't have problems with math because they usually see numbers better than letters. Enlarged photocopies are usually good enough, so they can do their operations in the sighted system.

For blind children, a special braille code is used. The inconvenience with this is that their books are bigger. Blind children have to be given more time to do their operations. Now, there is a talking calculator machine.

Geography:

There are maps and globes in thermophorm, but they are very simple and children have to work on them with a teacher who can explain it. Low vision children usually don't need anything, but enlarged copies of maps. These maps have to be simple and perhaps some reformation must be done to provide contrast, for instance, marking better the borders, the banks, and the rivers.

For young low vision children, maps must be very simple and more contrast is needed. It would be better if the maps were made with different textures and objects.

Nature:
There are many resources students can touch. There are maps in thermophorm, for instance, the digestive tract and the body. The student can study flowers with real models as with many other natural objects.

Good experience for low vision or blind children is for them to visit museums and factories. Almost always the staff in the museums and factories will make special exceptions for blind and low vision children, letting them touch displays, animals, machines and statues, etc.

History:
Architecture, like many other things can be reproduced in thermophorm.

Arts:
Art is a good medium of expression. Students enjoy finger-painting and clay work...it is a good experience for them to be creative.

Language:
Blind children have more difficulty than sighted children in ortography and spelling, since braille is a slower and more difficult method. This is because they have less opportunities to read the same word written many times, and visual memory plays an important role in detecting missed or misspelled words.

Literature:
The blind child usually likes reading. The problem may be finding enough books in braille or in enlarged print for the children.

Physical Education:
This is one the subjects the child needs more of and practices the least. Some children use their blindness to escape from this subject. This excuse is accepted by the teacher, who ignores what the child can do, or is afraid of the child getting hurt.

In gymnastics the blind child can be used as a vote model, as he has to have a good explanation. These explanations are helpful to the other children too.

In sports, some materials have been adapted for blind use. Usually, the child's peers find a way for the blind child to participate in the activity.

3.3.3 Important considerations for classroom background:

Classroom:
Normally, it is not feasible to choose the classroom; but the optimal conditions would be:
on the second floor to avoid ground glare, away from noisy areas, away from congested areas, a central location in the school

School:
We usually find the children already integrated in the school. If some of the schools in the area have better conditions for the child, we can inform the child's parents, who make the decision as to which school the child will attend, given this information.

The child should be encouraged to travel to the school with his peers, or alone if he is able to do it. He must reject being always accompanied by his family for this is a sign of over protection.

Desk:
The child should search out the place from which he can see best. In order to do this he must take some requirements into consideration:

Distance from the chalkboard if he is low vision. Being in the first row can enlarge the board four times more than being in the last row. He must be encouraged to move closer to the board if he cannot see from his seat.

Even if he can see from his seat, it would be easier for the child if the teacher speaks aloud what he is writing. Also the child next to him could write on carbon paper and give him a copy of his notes.

Distance to the plug if he needs some electricity for a resource aid.

He must have enough room to use his material without disturbing his peers.

Depending on the child's light sensitivity, he may need to be nearer the light source, away from the light or he may need a lamp.

Light:
We have to keep in mind the information provided by his doctors about his sensitivity to the light: if it is better that the light coms from the left, up, etc. To avoid glare from walls, furniture, and chalkboards, they should be colored and preferably green.

The child himself may find his optimal place to be where he feels most comfortable.

4.0 Special Moments:

Preparation:
Before integrating the child into the school system, we have to know about his person, his character, his disease, his background,...anything that

can help us; teachers or parents to choose what is best for the child. Whether that choice is to integrate the child in the school or for him to go to a special school for blind children. Also, it helps us to know what we can expect from.

Before school begins for the children, it is important to make contact with the school teacher and the school. They have to know what they can expect from the blind child. It would be ideal if the school teacher were present when the child has his first contact with the school, which should be before the other children start.

The child has to become acquainted with the playground and the inside of the school. He has to be able to go alone to his class, the bathroom and other important places in the school. The bathroom and his classroom have to be stressed among the other rooms. This presentation is usually made by the mobility or the itinerant teacher.

The itinerant teacher should speak with the school teacher and the other staff members about how the child is going to function, the specific material he has, and the resources he can count on. They also should make an appointment with the special teacher to set up a schedule that they will follow throughout the year in order to determine how much time they are going to need to dedicate to the child. The amount needed depends on the needs of the child and the diagnosis from the evaluation. Normally, the older the child the less time he needs to be helped, so his schedule should be arranged taking this into account. The child in pre-school usually needs less help than later as their games are the same. They need to acquire the same skills that the other children do.

When they need to learn reading and writing skills they need more help. The skills are the same, but the material they use are different and the blind child needs to be taught how to use these resource materials first.

Through the year the child usually needs more help at the beginning than at the end. Therefore, the schedule has to be flexible if less help is needed or more is required by the child from the school teacher.

At the end of the course an evaluation has to be made in order to help plan the next year. The evaluation tells us what the child has achieved and what needs further work. This record shows what he has worked on during the year, his behavior, the material used, the kind of help required from the teachers, and how he worked. Also other information that would be helpful to make his education more successful in the future would be included. This record is made by the itinerant teacher who completes it with the information from the special teacher and the school teacher. One copy has to be kept on file at the school so it is available for the next teacher.

5.0 Commentary and Conclusion:

I think that the pre-school years are some of the best for integration, because during this time the children socialize more and therefore are better suited for integration. During pre-school, children usually are completely integrated. Rejection frequently comes from the teacher who doesn't know, or care about integrating the child. The skills sighted and blind children learn in pre-school are practically the same. They learn how to distinguish colors, different materials,etc. Even if the child can't see or distinguish all colors, pictures, shapes, and the mixtures of colors this is accepted at this age. The same skills that sighted children need in order to learn how to read and write are also learned by children that are impaired as the process is the same: lateralization, imitation of sounds, psycho and gross phycomotricity, playing etc. These learning processes will all be very useful, even for the blind child, if he is introduced into mobility later.

Acceptance of the child by his classmates at this point may be because the children don't have preconceived ideas about blind people. Not much explanation is necessary for the new child to be accepted.

When the visually impaired child spends one or more years socializing and developing different skills and basic concepts without much problem, he is then prepared to start elementary school.

Difficulties now come for the child. The child has to learn fundamental concepts for his future. There is not only the question of whether the child is integrated and part of a social group, but how he is integrated and with whom - with handicapped children or "normal" children.

If the child is integrated with other handicapped children with the same difficulties, it is logical that he is going to have the same or similar materials, methods, objectives and skills that his peers have.

He is going to have less difficulty at any given time, because his classmates are at a similar level and are working on the same material and methods etc. It is easier for them to study, to write, to work, because all the students do the same work. It is also easier for the teacher to have a homogeneous group of students to teach. But many of these children have to live far from their parents and this situation may create emotional conflicts similar to the interruptions that orphans experience without family contact. Handicapped children have a greater need for the acceptance and the support of their parents than non-handicapped children.

On the other hand, it is sometimes hard for parents to accept the idea of having a handicapped child. It is through contact with him that they are able to accept the child. If the child lives far from them, and they only see him a few times during the year because of this arrangement, his parents don't know how to relate to him or what the child can do because they don't know him.

The best way that the handicapped child's parents can learn to accept their child is by assuming responsibility for helping their child. For instance, supervising the child at home, or if the parents learn braille they can see what their child is achieving day by day, and just showing their interest in the child's achievement is also helpful.

I have seen that integrating a child in school is difficult in the first and second years when the child has to learn how to read and write braille while the others are learning to read and write in the sighted system. This is when the blind child requires time with the special teacher and the itinerant teacher. But once he knows braille he doesn't need to dedicate a lot of time to special classes. It depends on the child, but normally one may learn enough meeting once or twice a week, besides taking lessons twice a week for one hour to practice typing, Optacon, or whatever else is requested.

Some people say that the real integration is always within the classroom when the blind student is with his classmates. Once he goes out of the room he is treated special, but there are inconveniences with this method. Where is the itinerant teacher going to work?

In preschool it doesn't pose much of a problem if the itinerant teacher works in the class because the children are usually working on the same subject and the itinerant teacher is guiding the child stressing the skill and showing him the things he can do with different materials. But later it can disturb the other teacher or class, if the itinerant teacher has to explain how to do an operation with the Perkins writer or a different resource. Such explanations may annoy the others and the teacher who may not pay enough attention to what the others are doing.

So, there is no rule about having the special or itinerant teacher inside or outside the room. It depends more on the child, he may not like to be taught in front of the others and the teacher may not feel comfortable with a strange teacher in his classroom. Also, the other children may not feel comfortable working, although they usually get used to it.

Because a child goes for a "special class" it doesn't mean he is special or different. Some children, who are not handicapped, go in order to reinforce the subjects with which they have difficulty. This is the time the child may take advantage of the resource classroom although the teacher has to take in mind the schedule.

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